

TORREYA

October, 1917.

Vol. 17

No. 10

MUSHROOM POISONING

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I am not a botanist, I *am* a surgeon. For me, hunting mushrooms is a pastime, eating them an adventure. Therefore this paper on Mushroom Poisoning is not a scientific communication with new and startling discoveries, it is rather a semi-popular article aimed to restrain the hazardous and interest the inquisitive.

The purpose of my message will be lost should my readers share the opinion of the physician in Maine who was called to aid me, when last summer (1916) I had involved the three members of my family in difficulties with a poisonous form of mushroom. He said: "Everybody knows that there is one edible mushroom, all the rest are poisonous toadstools." I showed him the ponderous work of McIlvaine, wherein is stated that most of more than one thousand forms are not poisonous. I showed him the pessimistically enlarged black list of the United States Department of Agriculture, which, including even doubtful forms and erring well to the side of safety, publishes seventy-two varieties as "poisonous or suspected of being poisonous." Every effort failed to move this physician from his standpoint and he left us with the warning in the future "to leave those things entirely alone"—a warning, I may say, which we have obstinately not adopted. As far as I am concerned, I have always looked upon the result of his advice as an overthrow and defeat of one of the "pure sciences" by prejudice and ignorance.

It happened this way: We identified some mushrooms growing

[No. 9, Vol. 17 of TORREYA, comprising pp. 151-170 was issued 2 October 1917.]

in a neighbor's cucumber bed as *Panaeolus retirugis* (they were later identified by Dr. Murrill as *P. semiglobatus*). Reassured by McIlvaine's opinion that this form is edible we gathered a quantity enough for three persons, prepared them by steaming with butter, poured the liquid on toast and ate the toast and the mushrooms. We smack our lips even now over the savory dish. In flavor they are equal or superior to the inky caps (*Coprinus*).

We ate them at 6:30 P.M.; each one ate about one half cupful of the caps and two pieces of toast saturated with the liquor. Then at 7:30 P.M. my wife and I went out to a neighbor's house to play bridge. While chatting with neighbors on the road about 7:45 my wife leaned against me and said she was dizzy and could not see distinctly. I laughed away her symptoms but she was unsteady and took my arm for aid in going down the road. This tendency increased and she was glad to reach the neighbor's house where she could obtain a seat. There was also at this time some air hunger. She began to play bridge. The dizziness increased, then some muscle fatigue was manifested. This period was preceded by one of stimulation, which lasted from 8:30 to 9:30 P.M. During this time the dizziness was constantly present and gradually increased. There was also a gradually increasing inability to control muscle movement, it was difficult to sit up and some uncertainty in walking about, cards would fall from her hands, the skin was cold and dry to touch but the skin sensation was hot, prickly and tingling. There was some cerebral stimulation too—a tendency to be jolly, hilarious—she laughed and talked inordinately and foolishly. She was unable to fix her mind on the card problems before her and played badly. After about an hour of this the stimulation was succeeded by symptoms of depression. It became impossible to see properly, the pupils dilated. Shortness of breath increased. The pulse became thin, weak and rapid. Now there was inability to sit up any longer, and I placed Mrs. Douglass in a hammock and went to our cottage for some atropine and morphine.

Up to this time my own symptoms had followed those which

I have narrated for her, except they were about half as intense, and appeared about half an hour later. Consequently, I was able to follow hers intelligently, but now I began to doubt myself and thought it was time to do something for her before things might become so bad that I could not help her.

We were not frightened—I realized that the mushrooms were causing the symptoms but felt perfectly sure that nothing serious could happen, but I began to doubt my power to think and to assist. I literally staggered back to my cottage, two hundred yards away, secured my tablets and syringe and struggled back over the road to my wife. It was possible only with resolute effort and firm decision. I wanted to lie down. Tired and dizzy, I staggered back and found I could not read my medicine labels clearly. Friends helped me make the solution, identified the remedy, steadied my hand while I filled the syringe which I administered to Mrs. Douglass, who now was prostrated and had marked difficulty of breathing and a very rapid and weak heart action. After giving her a dose of atropine sulphate gr. 1/150 and morphine sulphate gr. 1/8, I took account of my own condition.

In any case there was not the slightest stomach symptom. I could think clearly if I made the effort to do so. There had been in the onset of the symptoms dizziness and light-headedness, a desire to be supported. There was an increased pulse and a fuller respiration, a burning and prickling of the skin over the whole body. This was succeeded by some excitement of the mind. I wished to be noisy, to laugh and joke. My own trivial and foolish remarks met with *warm personal appreciation*. The mind was stimulated truly, but the grade and result were below normal. Thoughts flew through my brain, but they were of secondary quality. The attention was easily distracted and disturbed. My ability to play cards was lessened, my mind refused to work logically. I was careless in play. Objects near seemed far away, sounds were diminished, muscular weakness supervened and an uncomfortable feeling of anxiety appeared. My hands and feet were unsteady, my vision uncertain. By will power and reason, however, I was always able to partially

correct these effects. My pupils were normal, so was my heart. I decided not to take any remedy, but to oxidize the poison, if possible, by exercise. So I helped carry Mrs. Douglass home, then I brisked about, washed out Mrs. Douglass's stomach, gave her some vinegar, sent for the doctor in case I should not be able to attend to her.

I then awoke the maid, who had also eaten the *Panæolus* and, unsolicited, she said that about 8:30 P.M. she was on the porch watching the boats in the bay. She became dizzy and could not see the boats any longer. The vertigo became worse so she went to bed. As she had apparently recovered I gave her no treatment except vinegar and a purge.

Six hours after eating and five hours after the earliest symptoms every evidence of poisoning had disappeared with us all, except that Mrs. Douglass's pupils remained dilated for 24 hours.

The experience just narrated diminished considerably the anxiety with which we searched for new species of mushrooms to eat, but it increased an interest in cases of mushroom poisoning. In looking over the literature on the subject I have come across some interesting facts, a few of which I have set down in the part of the communication which follows and I have been very materially aided by the excellent article of Dr. M. Roch entitled "Les Empoisonnements par les Champignons," appearing in the Bulletin of the Botanical Society of Geneva, 1913, Vol. V, of which I have availed myself freely, sometimes even literally.

II. Frequency

My chagrin and the shock to my ignorant assurance and foolhardiness has been somewhat assuaged by learning that we moved among distinguished society. The wife and children of Euripedes, Pope Clement VII, Emperor Jovian, Emperor Charles VI, the wife of Czar Alexis and the Emperor Claudius were among those who have died of mushroom poisoning. In December, 1897, the Department of Agriculture in Washington issued a special brochure on this subject because two well-known residents were killed by toadstools and every summer the daily press publishes fatal results in various parts of the United States.

Cases of mushroom poisoning are apt to increase, due partly to an increased interest in the vegetable diet and an effort to find meat substitutes. Mushrooms in our shops are more abundant than formerly. Many more are used as food and as they are relatively expensive, people of moderate means who enjoy savory food are apt to seek in nature forms which they believe edible.

The movement of "Back-to-the-farm" for the city man, the Boy Scouts for the student, the high cost of living for everybody and an increased interest in nature study are other factors which will lead to an increase of poison cases. At present the greatest danger arises from children or from the poorer class of adults who see foreign-born laborers scouring the fields and woods for edible forms of mushrooms. Now, it happens that these foreigners think they know edible kinds and are careful to gather these alone or else they know how to render a dangerous kind harmless by certain methods of preparation. But the American does not with certainty identify his mushroom but gathers those which "look just like" those gathered by the foreigners and is apt to add a number of cases to the annual death list. The death rate from the "destroying angel" (*Amanita phalloides*) cases is over 52 per cent.—children are more susceptible than adults and there is one clear record of a death from eating one third of the top of an *Amanita*. With these facts in mind, perhaps the best advice is that given by a mother to her child, who seeing me gather some edible forms tried to imitate me; as children will do. The mother said: "Child, that man knows what they are, but for you they are *all* poison."

(To be continued)

A NEW MERTENSIA

BY GEO. E. OSTERHOUT

Mertensia media sp. nov.

Stem rather slender, 2-3 dm. high, glabrous or sparingly appressed pubescent, flowering branches from near the middle,